

## IN THE SPECIFICATION

Please replace paragraphs 124-129 with the following amended paragraphs:

B<sup>1</sup> [0124] Figure 11a. ~~Section a)~~ represents the use of a probe which stains a whole chromosome. Such a probe can be used to detect a translocation that occurs anywhere along the chromosome. The color photograph of FIG. 12 shows use of such a stain for chromosome 22 to detect a translocation, in this case that which occurs with CML. Such an approach to staining is not very useful in interphase nuclei since the region of the nucleus that is stained is relatively large; overlaps in the stained regions can make interpretation difficult in many nuclei.

[0125] Figure 11b. ~~Section b)~~ represents the reduction of the stained region of the chromosome shown in a) to that in the vicinity of a breakpoint, providing information focused on events in that region. The staining pattern can be continuous or discontinuous across the breakpoint, just so that some binding is on both sides of the breakpoint. Such a staining pattern requires only one "color", but gives no information about which other genomic region may be involved in the exchange.

[0126] Figure 11c. ~~Section c)~~ represents the use of a probe which binds to sequences which come together as a result of the rearrangement and allows for the detection in metaphase and interphase cells. In this case the different sequences are stained with different "colors". Such a staining pattern is that used in the examples of Section VIII of the this application.

[0127] Figure 11d. ~~Section d)~~ represents an extension of c) by including staining of both sides of both breakpoints involved in the rearrangement. Different "colors" are used as indicated. The additional information supplied by the more complex staining pattern may assist with interpretation of the nuclei. It might also permit recognition of an apparent insertional event as discussed herein.

[0128] Figure 11e. ~~Section e)~~ represents the detection of an inversion in one homologue of a chromosome.

[0129] Figure 11f. ~~Section f)~~ represents a staining pattern useful in the detection of a deletion. A deletion could also be detected with a probe that stains only the deleted region; however, lack of probe binding may be due to reasons other than deletion of the target sequence. The flanking regions stained a different "color" serve as controls for hybridization.